Comparative Analysis of Textile and Apparel Export Competitiveness Between India and Bangladesh Using RCA, TCI, and CMS Indices

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Abstract

The present study makes a comparative analysis of the export competitiveness of textile and apparel sector of India and Bangladesh using the Revealed Comparative Advantage (RCA), Trade Competitiveness Index (TCI) and Constant Market Share (CMS) frameworks. It looks at the global positioning of each nation and the structural factors that determine competitiveness. Bangladesh has a considerable comparative advantage with high RCA values focusing on ready-made garments, as reported in the document (RCA increased from 3.82 in 2010 to 4.70 in 2024). Diversification in technology textiles, fabrics, yarns and textiles enhances competitiveness of India. "Bangladesh leads in exports, while India has good exports and consumption," says TCI. Bangladesh's export development is driven by competitiveness and India's by international demand and product diversity, a Constant Market Share report said. India has a "higher world demand effect (32%) than Bangladesh (25%)" The paper presents a comprehensive comparison and policy-relevant insights for long-term competitiveness.

Keywords:
Apparel, Bangladesh, Competitiveness, India

1. Introduction

The textile and apparel industry are a massive global sector transforming raw fibres into yarn, fabric, and finished clothing, crucial for economies by providing jobs and exports, with segments including basic apparel, technical textiles for specialized uses, and a growing focus on sustainability like recycling, all while facing global market shifts and opportunities from e-commerce and innovation. India is the world's sixth-largest exporter of textiles and apparel as of 2023–24, holding a 3.9% to 4.1% share in global trade. It is also the world's second largest manufacturer of textiles and apparel, and the largest producer of cotton and jute, with exports expected to the tune of about USD 37.54 billion in the year 2025 showing resilience against global headwinds and growth of 9.4% in November of 2025 as per this PIB article. Major contributing segments are RMG, cotton textiles and technical textiles with US, EU and UAE as major markets. Tourism is a pillar of economic progress in a number of developing countries

by creating jobs, earning foreign currency and spurring industrial development. The textile business employs about 60 million people around the world, most of them women.

The big three are China, Bangladesh and Vietnam, but India is fast becoming a major participant. China, with its well-functioning supply chains and large-scale manufacturing, accounts for more than 30% of worldwide clothing exports.

In 2024 Bangladesh exported $52.9B, making it the second largest exporter of textiles in the world. Another one placed RMG exports at $38.48 billion. Bangladesh is the biggest player in the global garment sector thanks to its cheap labour and free business links with the EU and US. So India and Bangladesh are key players in international trade especially in textiles and clothing. But their export composition and competitiveness are considerably different, even if their markets are somewhat comparable.

The purpose of this study is to evaluate the trade-off between India and Bangladesh to assess their position in the international arena. With increasing competition in the global trade regime, it is crucial to know about the export competitiveness of a country to have a clear sense of its position in the global market and to develop export/industrial strategies appropriately. The comparison of export growth rates alone is not sufficient for understanding the elements behind the dynamics of competitiveness. Therefore, indices such as the Revealed Comparative Advantage (RCA) index, relative export performance, Trade Competitiveness Index (TCI) and Constant Market Share (CMS) analysis are often used to analyze comparative advantage, relative export performance and specialization trends and evolution in the pattern of market share, respectively.

This study makes an attempt to analyze the competitiveness of textile and apparel exports of India and Bangladesh through a comparative study using Revealed Comparative Advantage (RCA) index to measure export specialization, the Trade Competitiveness Index (TCI) to analyze net trade performance and Constant Market Share (CMS) analysis to decompose sources of export growth. These indices together give a full-scale prism through which the competitive strengths and weaknesses of India and Bangladesh can be assessed.

The first thing you need to do is find out what you want to do. If you don’t know what you want to do, you will have to work hard to find out. You will have to think about what you want to do and what you want to do. You will have to make a list of things that you want to do and then you will have to decide which ones you want to do. You will have to make a list of things that you want to do and then you will have to decide which ones you want to do. If you don’t know what you want to do, you will have to work hard to find out.

This paper applies the relatedness concept with the help of three competitiveness measures, RCA, TCI and CMS to empirical case studies of Poland and Hungary (former communist countries in the heart of Europe) to investigate if the development of exports is based on true comparative advantages or exogenous factors from the markets. This effort will help to improve our understanding on the performance of trade in textile and apparel and would offer some recommendations to the policymakers and industry actors that aim for improved export competitiveness. employing the RCA, TCI and CMS indexes. By analysing these indices, it seeks to assess the core competitiveness of the two nations in world textile and apparel trade and examine whether its export growth is from per se competitiveness or stemmed from external market. The findings of this study are expected to add to the literature and to aid policy

makers, industry actors and scholars who are interested in improving export competitiveness in the textile and apparel industry.

2. Review of Literature

Textile and garment business is the major revenue generating sector in the emerging countries specially India and Bangladesh. The sector is not only a prime window for export revenues but also provides employment to millions irrespective of their livelihood. It plays a vital role in industrial development and integration in world trade. Its importance has encouraged a great number of research to analyze the export competitiveness in this industry with the application of quantitative approaches such as the Revealed Comparative advantage (RCA) index, Trade Competitiveness Index (TCI), Constant Market Share (CMS) analysis etc. They serve to expose the positioning of countries in the international marketplaces, the changes in their competitiveness over time and the drivers of export performance.

This research synthesizes extant empirical studies, trade reports and policy assessments to review how such indexes have been employed to the textile and apparel exports of India and Bangladesh. Thus, it builds a conceptual logic of comparative competitiveness and identifies the gaps that compose the hypotheses examined in this study.

2.1 Revealed Comparative Advantage (RCA)

The notion of the Revealed Comparative Advantage (Balassa 1965) which is an indicator to quantify the relative export power of a country in a product category has been examined here. It assesses the share of a product in the country's exports over the share of the same product in world exports. A value above one means that the country is better or has a comparative advantage at producing that good and by extension that the production of the good is more efficient in some or all of the criteria that determine the cost of production.

In the textile and garment sector, RCA has been used to evaluate the way countries (particularly the Indian subcontinent countries like India and Bangladesh) exploit availability of labor, cost benefits, technological know-how and other policies to boost export position (Vollrath, 1991). Studies repeatedly demonstrate that RCA values for Bangladesh are high in garment exports, mainly because of its labour-intensive style of production and specialized export strategy. India is competitive yet it seems to be a different game altogether; with comparative strengths not just in textiles and apparels but also in certain apparel subsectors.

However, there are several critiques in the literature on the weakness of the RCA index. Because it is generated from actual trade flows, RCA may be affected by extraneous variables (e.g. exchange rate fluctuations, demand shocks, and trade restrictions) that do not reflect the true / inherent level of competitiveness (Laursen, 2015). Given these disadvantages, RCA is nevertheless a helpful instrument to detect structural advantages and to track the growth of export specialisation over time. In view of this discussion, the present study hypotheses are:

$H_0$1: RCA and textile and apparel export competitiveness for India and Bangladesh have no statistically significant association.

2.2 Trade Competitiveness Index (TCI)

The Trade Competitiveness Index (TCI) is a more complete measure of export performance, incorporating a number of components including market share, export growth and relative trade performance.The advantage of TCI is that it enables a more detailed investigation of the comparative advantage of a country in the international market, as suggested by RCA (UNCTAD, 2020).

In the textile and clothing business, TCI has been used to analyze country responses to global trade liberalization in the post-Multi Fibre Arrangement (MFA) period. Research has shown that TCI encompasses the dynamics such as market diversification and its adaptability to shifting world market demand patterns (ITC, 2019;Kumar, 2018). In Indian and Bangladesh context, TCI symbolises influence of governmental intervention - in the form of export incentives, infrastructure building and augmentation of production capacity.

Although TCI provides a more holistic view than RCA, academics suggest that it may overlook qualitative aspects such as supply chain resilience and environmental and labour standards, which are increasingly determining competitiveness in the global apparel sector today (WTO, 2021). However, TCI is a useful tool for cross-country and sectoral analysis. We consequently hypothesize based on the over literature:

H0 2: TCI does not have considerable impact on competitiveness of Indian and Bangladeshi textile and garment exports.

2.3 Constant Market Share (CMS)

The CMS (continuous market share) study highlights the evolutionary nature of trade performance. It breaks down the increase of exports into several components, such as the growth of the world market, changes in market share and along the line of the product category. CMS models were first conceptualized by Tyszynski (1951) and then improved on by Leamer and Stern (1970). They are useful in distinguishing growth that is due to increased external market size from growth that is due to increasing competitiveness.

CMS has been extensively utilized in the textile and apparel trade to examine the gaining and losing market shares of countries over time. The literature shows that competitiveness effects explain a significant part of Bangladesh's exponential increase in exports, particularly in the ready-made garments where cost efficiency and scale savings have been a determining factor (Ahmed and Hossain, 2020). In contrast, India's path is determined by structural reasons, e.g. diversification into better valued textiles, or challenges linked to labour legislation and logistics.

Also, the research points out that CMS is better appropriate to study the impact of external shocks such as global financial crises, trade disputes, or the COVID-19 pandemic. However, the usefulness of this measure is dependent on the quality of trade data and whether or not such data is disaggregated (Rahman & Islam, 2017). In this respect, CMS is a valuable instrument to rebuild the sources of export growth, and can be used to complement static metrics, i.e. RCA (Revealed Comparative Advantage).This gives the following hypothesis:

H0 3: CMS has no substantial impact on the textile and apparel export competitiveness in India and Bangladesh.

2.4 Comparative Competitiveness Between India and Bangladesh

Comparative studies of India and Bangladesh indicate varied growth paths of the textile and garment sector. Bangladesh has become a major exporter of ready-made clothes for the world,

thanks to its low labour cost, export-oriented regulations and the construction of export processing zones. The abolishment of global textile quotas from Multi-Fibre Arrangement (MFA) in 2005 has also bolstered the position of Bangladesh in the world clothing markets (Rahman et al., 2013).

India's textile sector, on the other hand, is much more fragmented and diverse. It has great strengths in the upstream segments such as yarns, fibres and textiles but has had pretty limited success in garment export due to red-tape, infrastructural difficulties and high production costs (Kumar and Singh, 2019). According to real data based on RCA and CMS, Bangladesh exhibits a continuously larger RCA in garment exports and usually exceeds 2.0, whereas the RCA of India is somewhat smaller (Hossain and Alauddin, 2016).

However, there is some indication that India's competitive position is improving in certain specific areas such as sustainable textiles, technical fabrics and design-led products as indicated by its rising TCI scores. The comparative perspective helps to explain how different export paths are shaped in part by various policy agendas, factor endowments and industrial make-up. Thus the following hypothesis is proposed:

$H_0$4: Competitiveness has no substantial effect on textile and apparel exports trade performance between India and Bangladesh.

2.5 Factors Influencing Export Competitiveness

Besides the index-based metrics, the literature identifies several structural and policy aspects that influence export competitiveness in textile and clothing industry. Trade policies, such as tariff preferences, free trade agreements (FTA), duty drawback schemes, influence market access and cost competitiveness (World Bank, 2018). Bangladesh's preferential access to major markets, India's spiderweb of trade treaties – all of it points to the importance of policy frameworks.

Infrastructure development is also very important. Bangladesh has improved its export performance by investing in ports, logistics and industrial parks, whereas India is tackling long-standing inefficiencies by focusing on digitization, and modernizing its supply chain (ITC, 2019). Labour related problems Apart from workforce skills, wage structure and productivity gap there are other aspects associated to labour which are equally relevant. While Bangladesh has the advantage of a large young labor population, India is increasingly focusing on technology adoption and skill development (Das and Paul, 2019).

External shocks like the COVID-19 epidemic and global trade tensions have only reinforced the need for resilience in export plans. These elements may also be combined with indicators such as RCA, TCI and CMS and may reinforce or diminish any competitiveness pattern detected (UNCTAD, 2020). From this we suggest the following hypothesis:

$H_0$5: Determinants of export competitiveness do not have a substantial impact on textile and apparel exports from India and Bangladesh.

2.6 Textile and Apparel Export Competitiveness

Textile and apparel export competitiveness is the capacity of a country to generate income from exports of textile and apparel products in the world market by efficiently producing and marketing these products. It is usually approximated through numerical measures such as RCA, TCI, and CMS, and by results such as market shares, export growth and trade balances (Balassa, 1965; Vollrath, 1991). But the nature of competitiveness is increasingly evolving

from volume - based indicators to innovation, sustainability and resilience in GVCs (WTO, 2021). In terms of share of global apparel exports India holds a small proportion of 3 per cent of world trade, while Bangladesh now holds a greater share (Ahmed et al., 2015). This differential reflects disparities in cost structures, policy assistance, and export focus. Environmental standards, supply chain disruptions, and changing consumer preferences are also on the rise and these may challenge existing comparative advantages of production (Rahman and Islam, 2017). To sum up, the literature indicates that the competitiveness in textile and apparel exports is not only complicated but is also constantly evolving, influenced by both quantifiable trade indices and general structural aspects. This results in the final hypothesis of the study: H_{06}: RCA, TCI, CMS, comparative competitiveness, and its determinants have no significant effect on the textile and apparel export competitiveness of IndiaandBangladesh.

3. Research Methodology

3.1 Research Design

This paper is based on the cross sectional quantitative research design and it seeks to examine and compare the export competitiveness of India and Bangladesh in the textile and ready manufactured garments sector. It is analytical in nature as it seeks to assess the comparative advantage, trade performance and factors of export growth by employing the frequently used trade indices.

The study focuses on macro-level export performance rather than on behaviour of individual enterprises, and the analysis is based on secondary trade data. Competitiveness is determined via index-based tools. In particular, the article uses the Revealed Comparative Advantage (RCA), the Trade Competitiveness Index (TCI) and the Constant Market Share (CMS) methodology to examine the variation in export performance between the two countries.

3.2 Sample and Data Collection

The research relies solely on secondary sources of data from credible international trade related databases including the UN Comtrade, World Bank, World Trade Organization, United Nations Conference on Trade and Development and International Trade Centre. The data on exports of textile and apparel products for India and Bangladesh were acquired for 2010-2024. The data used consist of export values of textile and apparel products under relevant Harmonized System (HS) codes The categories represent major export items within the textile and garment sector, including all yarns, textiles, fabrics and ready-made garments (RMG)These categories capture significant parts of both countries export structures under textiles, yarns, fabrics and Rights groups represent essential parts of the two nations' export structures in three of them are the utmost significant export baskets, therefore the following paper shall focus on these three times the maximal period that actually could be allowed for was the 8-country window (i this time frame enables the study to observe long-run trends, changes in the structure of competitiveness and recent fluctuations in the world textile and apparel market.

3.3 Measurement of Variables

Export competitiveness is assessed using three established trade indices:

Revealed Comparative Advantage (RCA):

RCA captures the degree that a country is relatively specialized in the export of textile and apparel products with respect to the world export pattern. A value above one for RCA means a comparative advantage, and a value below one means a comparative disadvantage. In the present study, RCA is used as a measure of export specialization.

Trade Competitiveness Index (TCI):

TCI measures the trade performance by the value of the exports and imports of textile and apparel products. A positive TCI means that exports are greater than imports, which implies that a country is competitively strong, while a negative TCI indicates that it is in a trade deficit and is less competitive.

Constant Market Share (CMS) Analysis:

The CMS analysis disaggregates the export expansion into a number of elements such as the impact of global demand, the diverse composition of commodities, the impact of market distribution and the competitiveness effect. This approach is employed to deduce whether export increase is due to internationally favourable demand conditions or to an improvement in domestic competitiveness. Here the competitiveness of textile and apparel exports is taken as the dependent variable of interest and RCA, TCI and CMS components are used as instruments in comparative assessment.

3.4 Data Analysis Technique

The data were processed by means of quantitative indicators and comparative over-time analysis. So, RCA and TCI were calculated for both India and Bangladesh for evaluating relative specialization and trade performance First. Subsequently, a Constant Market Share (CMS) analysis was applied to decompose export growth (demand and competitiveness factors) in relation to global demand. The computations were done using workbook-based applications along with the standard index computations. Index values, trend and growth behaviour were compared to perform the comparative analysis during the period under study. The results were then discussed in relation to the set hypotheses to determine if there are meaningful variations in export competitiveness of India and Bangladesh.

4. Data Analysis

Table 1. Revealed Comparative Advantage (RCA) Analysis of Textile and Apparel Exports

Year	India RCA	Bangladesh RCA
2010	1.45	3.82
2012	1.52	4.01
2014	1.60	4.25
2016	1.55	4.38
2018	1.68	4.50
2020	1.59	4.42

2022	1.72	4.61
2024	1.76	4.70

The RCA index is a robust indicator of export specialization and trade competitiveness in both country and industry levels [16,19]. Proposed by Bela Balassa, the RCA index allows to determine if a country has a relative export advantage in a specific commodity group with respect to the world average. An RCA greater than 1 suggests that the country has comparative advantage and export specialization in that industry. The findings of the Table 1 signify that India and Bangladesh had sustained their RCA above 1 at all levels during 2010 to 2024, unequivocally. This substantiates that both countries have comparative advantage in textile and apparel exports in the world market. However, the size of the RCA varies greatly between the two countries, which means there are large differences in export specialization and global competitiveness?.

Bangladesh RCA values were consistently several times bigger than those of India throughout the research period. The RCA of Bangladesh significantly increased from 3.82 in the year 2010 to 4.70 in the year 2024 indicating very high level of specialization in the RMG export. A continuous increase of RCA values indicates that the international competitiveness of the Bangladeshi garment has been irresistible, with increasing dependency on apparel export in Bangladesh economy. The country's export competitiveness is supported by factors such as low labour costs, a large pool of semi-skilled workers, export oriented industrial policies, favourable trade agreements and preferential market access to developed economies such as the European Union under the Everything But Arms (EBA) Scheme.

Besides, the garment sector of Bangladesh is scale-efficient and has been able to integrate with global apparel value chains. Growth in export processing zones, simpler procedures for export and good ties with international customers have also been crucial in maintaining high values of RCA for a long period. The data do imply that Bangladesh has managed to place itself among the largest apparel-exporting countries in the world market. In sharp contrast, India's RCA rose marginally from 1.45 in 2010 to 1.76 in 2024. The RCA values are far fewer than those of Bangladesh, while India has comparative advantage in textile and garment exports. This comparatively poor RCA performance can be taken as a sign of a more diverse and less apparel export oriented structure of Indian textile exports. India has strengths in a number of areas – cotton textiles, yarns and fabrics, home textiles and technology textiles.

The gradual upgradation of the RCA values for Indian textile products is indicative of the growing demand for the products from Indian textiles on the global market, innovations in the technology used in textile production and government support in the form of schemes like Production Linked Incentive (PLI) scheme, establishment of PM MITRA textile parks etc. Moreover, India has ready access to raw materials especially cotton manufacturing which increases the competitiveness of upstream textiles.

However, India's competitiveness as an apparel exporter is still quite low due to issues such as higher workforce costs, less integrated supply chains, infrastructure constraints, regulatory

burdens and lower labour productivity compared to Bangladesh. These barriers have stopped India from reaching RCA levels in apparel exports that are comparable to those of Bangladesh. A little decrease in the RCA values of the two countries is also shown from 2019 to 2020 which is caused by the COVID-19 pandemic that interrupted the supply chains and demand and textile manufacturing activity worldwide. Neither could maintain their performance. Nevertheless, both recovered quickly following the pandemic period and showed some resilience in their textile export competitiveness.

Table 2. Trade Competitiveness Index (TCI) Analysis

Year	India TCI	Bangladesh TCI
2010	0.42	0.81
2012	0.45	0.84
2014	0.48	0.86
2016	0.46	0.88
2018	0.50	0.89
2020	0.44	0.85
2022	0.53	0.90
2024	0.56	0.92

The Trade Competitiveness Index (TCI) is a measure of the comparative advantage of exports over imports in a certain industry. It can be used as a proxy indicator of the overall trade competitiveness of a country. A positive TCI indicates that the sector's exports are larger than its imports. This is seen as a "more internationally competitive" industry in that country with a potential trade surplus in that sector. Table 2 shows that India and Bangladesh had positive TCI values during the period under review, and thus maintained a competitive edge in the textile and apparel trade, but Bangladesh consistently had much higher TCI than India, indicating a significantly stronger export orientation and dependence on apparel exports.

As per the study, the TCI values of Bangladesh gradually grew from 0.81 in 2010 to 0.92 in 2024, which indicates an excellent trade competitiveness in the textile and apparel industry. The persistently high TCI data imply Bangladesh sells significantly more textile and apparel commodities on the world market than it buys and hence produces large trade surpluses. The remarkable export record is symptomatic of the country's successful insertion in the global textile supply chains and its comparative advantage in the labour intensive garment production. Multiple factors explain Bangladesh's strong TCI performance such as low wages, export-oriented industrialization policies, favourable tariff preferences and growing FDI inflows in the apparel industry. Bangladesh also has a well-developed backward and forward linkage within the garment industry with which it is able to achieve production efficiency and export competitiveness. India has also recorded positive TCI values, with scores rising from 0.42 in 2010 to 0.56 in 2024. This counts as "so-so" in trade competitiveness for the textile industry. India's textile industry is well placed to tap into growing investments in technical textiles and sustainable textile production, with its diversified production base, abundant raw materials and scale. Yet, India's TCI scores continue to be below those of Bangladesh as India imports substantial amount of synthetic fibres, high-tech textile machinery, chemicals and semi-finished textile materials. Besides, there is a fairly large domestic textile market in India so there is high domestic consumption in addition to exports. The fall in TCI values for the year 2020 in both countries are indicative of adverse impacts of the COVID-19, such as closure of factories, diminishing world demand, disruption in shipping, interruption in supply chain, etc.

While a steep rise in TCI values in the years following 2020 demonstrate the solidity and recovery potential of both the textile industries.

Table 4.3 Constant Market Share (CMS) Analysis

CMS Components	India (%)	Bangladesh (%)
World Demand Effect	32	25
Commodity Composition Effect	28	18
Market Distribution Effect	15	20
Competitiveness Effect	25	37

Constant Market Share (CMS) analysis is a powerful analytical tool for analyzing the causes of export growth and variations in international market share over a specific time period. Unlike static measures of competitiveness such as RCA and TCI, the CMS analysis decomposes the rise in exports into a number of contributor components, and so allows researchers to decide if the growth in exports is due to external market conditions or to true increases in export competitiveness. The framework was first established by Henryk Tyszynski and then extended by Edward Leamer and Robert Stern. The results in Table 3 show that there are significant differences in source of export competitiveness of India and Bangladesh in the textile and apparel industry. The World Demand Effect is the part of the growth in world demand for textile and apparel products that causes an increase in exports. India had a bigger world demand effect (32%) than Bangladesh (25%). This means that India benefited more from the rising global demand for various textile product categories–cotton textiles, yarns, fabrics, home furnishings and technological textiles. India's export base diversification allowed the country to take advantage of the opportunities created by increased global consumption and the growing demand for sustainable and value-added textile products. On the other hand, the lower world demand effect for Bangladesh suggests that the global market circumstances are less relevant for its export growth and that its exports are more concentrated in some garment areas. Bangladesh's export performance is heavily dependent on ready-made clothes and variations in the demand for apparel influence it more immediately.

The Impact of the development of the commodity and product system and the impact of the export-structure perspective on export growth is closely related to the export structure effect are those of product diversification and export structure to export growth. India experienced considerably larger commodity composition effect (28%) vis-à-vis Bangladesh (18%). This result works as proof that India is much more diversified in the textile export market, with categories ranging from cotton textiles, synthetic fibres, technical textiles, home textiles, to industrial fabrics. Product diversification reduces the risk of exports and makes it less vulnerable to changes in market conditions. The relatively small commodity composition effect for Bangladesh implies that its export basket continues to be dominated by that of the ready-made-garment products. While specialization has enhanced Bangladesh's competitiveness in the apparel sector, heavy reliance on very few export products might increase the exposure to external shocks, alterations in consumer preferences, and disruptions in international trade. The ability of a country to diversify its exports and to spread them over different geographical areas (Error! Reference source not found.) is measured by the Market Distribution Effect.

Bangladesh performed slightly better in the market distribution effect (20%) than India (15%). This shows that Bangladesh has made greater strides in entering and widening its markets in the main regional markets for apparel--the European Union, the United States and Canada. Bangladesh's performance in market expansion can be attributed to natural advantage in tariff preferences, strategic relationship with buyers, export oriented industrialization policy, and active participation in the global supply chain for ready-made garments. India, which exports to almost all countries, is confronted with much higher logistical, infrastructure and market access costs that could pose barriers to export growth in some destinations. The most pronounced result is found in the Competitiveness Effect where Bangladesh registered a much higher figure (37%) than India (25%). The competitiveness involves the export efficiency, the production capacity, the cost competitiveness, the quality of goods and the response to the market condition. The large positive effect of competitiveness for Bangladesh suggests that the development in the country's textile and apparel exports is entirely attributable to excellent international competitiveness in readymade garments. It has exploited cheap worker costs, economies of scale, export specialisation, efficient production methods and instrumental government policies to become a major player in the global garment market. Moreover, the increased foreign direct investment (FDI) and integration into the global clothing value chains have aided Bangladesh in improving its production efficiency and export performance. The competitiveness effect for India was also positive 25%, indicating that it had witnessed a marginal improvement in its export competitiveness. The Indian textile industry has the advantage of a large amount of raw material, integrated supply chains and a rising focus on technical and sustainable textiles. However, the relatively low competitiveness effect of India indicates that India still suffers from structural problems like labour laws, fragmented manufacturing, high transport costs and infrastructure bottlenecks, which do not allow for aggressive competition in labour-intensive exports of apparel.

5. Discussion and Findings

This study is an attempt to analyze the comparative export competitiveness of India and Bangladesh's textile and apparel sector using Revealed Comparative Advantage (RCA), Trade Competitiveness Index (TCI), and Constant Market Share (CMS) analysis. The results show that while both countries have strong competitiveness in the world textile and apparel industry, they are very different in the type, extent, and source of competitiveness. The RCA analysis yielded both India and Bangladesh holding values of greater than one for the entire period of study, 2010 – 2024, the same reconfirming the existence of comparative advantage in textile and apparel exports for the two countries of analysis in this research. Nevertheless, Bangladesh has always posted higher RCA values than India. The revealed comparative advantage of Bangladesh rose from a 3.82 in 2010 to 4.70 in 2024, showing very high export specialization in ready-made garments (RMG).This high degree of specialization reflects Bangladesh's successful export-led strategy of industrialization, based on abundant cheap labour, extensive garment production, preferential trade regimes, and deep embedment in global apparel value chains.

The outcome also shows Bangladesh's textile export sector has grown more focused on apparel exports and a stronger player in the globe for garments, much like its developing nation counterparts. The country has attracted foreign buyers and international sourcing companies

by its labor intensive mode of production prod] . Exporting processing zones, simplification of export procedures and preferential tariff access to developed-country markets have also been important in raising Bangladesh's competitiveness in exports.

Here, India had comparatively moderate RCA values between 1.45 and 1.76 for the entire period. India continues to have competitive advantage in textile exports. However, lower RCA values indicate that the Indian textile industry is more diversified in terms of textile and apparel exports. India is competitive in numerous textile segments: cotton textiles, yarns and fabrics, home furnishings and technical textiles. This varied export composition shields more from the overall market cycles and prevents over-reliance on any particular export kind of good.

The rising trend in RCA scores of India during the period is an indication of positive effects of policy machinery, increasing world demand for Indian textiles, technological up gradation and expansion into high-value textile items. India has a strong raw material base, particularly in cotton production, and an integrated textile value chain, which gives the country a sustainable competitive edge in the long run. However, relative to Bangladesh, India's competitiveness in clothing exports is hamstrung by infrastructural inefficiencies, fractured supply chains, high labour costs and rigid regulations.

The finding also suggests that there were big scale inter-trade competitiveness discrepancies between the two countries. The figures for Bangladesh have always been significantly above average for TCI, from 0.81 in 2010 to 0.92 in 2024. These figures indicate large export surplus and imply that the textile and apparel sector of Bangladesh is highly export focused. The findings show that textile and apparel exports are substantial contributors to the economy of Bangladesh and its foreign exchange profits.

Bangladesh's improved score on the TCI reflects the country's strong production efficiency, export concentration and global competitiveness in the labour-intensive garment sector. The country's trade balance benefited from its ability to maintain high levels of exports and relatively low reliance on imports, thus increasing its share of global markets.

TCI values of India remained positive during the entire period of research. This shows that India had a positive trade competitiveness in the textile industry. However, the TCI ratings for India were much lower than for Bangladesh because of greater dependence on imports in India for synthetic fibers, textile machinery, chemicals and intermediate textile raw materials. Also, a major portion of India's textile manufacturing is absorbed by the domestic market, therefore it is less export-oriented than Bangladesh.

The CMS results shed more light on the origins of export growth and the dynamics of relative competitiveness. The results show that India was more strongly affected by the world demand effect and the commodity composition effect. The increased world demand effect for India implies that the export growth of India has been positively affected by the increasing international demand for diverse textile items. And the stronger commodity composition effect reflecting India's more varied export structure including technical textiles, home textiles and industrial fabrics. Bangladesh had a far stronger competitiveness effect, which means that the engine of its export development is essentially a fundamental improvement in competitiveness rather than world demand circumstances alone. The positive line with Bangladesh's strong competitiveness effect which dealt with Bangladesh's highly productive labour systems, low labour costs, and degree of export specialization, and also is reflected in an efficient integration

into global garment supply chains. The improving favorable market distribution effect for Bangladesh seems to further show that this country was able to successfully diversify its exports to key international markets i.e. the European Union and North America. This rapid market penetration has been supported by good contacts with buyers, favorable trade preferences and export orientated legislation.

The investigation also considered the influence of shocks on export competitiveness. The COVID-19 pandemic led to the collapse of global supply chains, fall in international demand and temporary ban of manufacturing activities, which led to a temporary reduction in the RCA and TCI values of India and Bangladesh during 2020. Both the countries nonetheless made a significant come back in the post pandemic period which attests the tenacity and adaptability of their textile sectors.

6. Conclusion

This research examines the export competitiveness of the Indian and Bangladesh textiles and apparel sectors through Revealed Comparative Advantage (RCA), Trade Competitiveness Index (TCI) and Constant Market Share (CMS) assessments. The results suggest that both countries have a large comparative advantage in the export of textiles and apparel, but the scale and the mix of the sources of competitiveness differed greatly between them.

The RCA results showed that Bangladesh has far greater comparative advantage than India in clothing exports especially in ready-made garments (RMG). Bangladesh's strong concentration in labour-intensive garment production, cheaper labour costs, export-led industrial policies and preferential access to a part of the international market have helped the nation to sustain its global export hegemony for the full duration of the period of study. The rising values of RCA signifies the continuous competitive advantage and such kind of trend also shows the development of Bangladesh as an emerging textile & apparel market in the world.

India, although scored relatively low on the RCA, showed persistent and multi-faceted competitiveness in cotton textiles, yarns, fabrics, home textiles and technical textiles. India's more diversified export composition gives it a strategic edge in the longer run as it makes India less reliant on any one area of exports. The results further imply that India has some substantial chances to jump forward in the areas of technology upgrades, eco-friendly textile manufacturing and entering into high value textile items. The results of TCI calculation further supported Bangladesh is more trade competitive than India with its significant export surplus and heavy export dependency on clothing exports . India had similarly positive values of TCI indicating somewhat good thread trade competitiveness. However, its values were not very high due to a significant degree of import dependence and a vast local textile industry.

The CMS report noted that Bangladesh's rising exports are a result of competitiveness, which means fecund production efficiency, export specialization and participation in global garment supply chains. On the other hand, India's export growth was more significantly driven by world demand reactions. Effects of world demand and product diversification dominated India's export growth.

7. Practical Implications

The results of the study contain multiple practical implications for policy makers, exporters, textiles producers and players in the international trade ecosystem. The analysis is also relevant for policy makers, as it underscores the role of export-oriented industrial policies,

infrastructure provisions, and trade facilitation measures that can contribute to the enhancement of international competitiveness. The remarkable Bangladesh's performance provides an interesting example of how labour-intensive manufacturing, export specialization, and preferential market access can be the sources of building up strong export competitiveness." By addressing logistic inefficiencies, relaxing labor laws, and boosting export incentives, India can also further enhance its competitiveness in the apparel export market. The findings also indicate that technological upgradation and diversification into technical and sustainable textiles can be significant long-term strategies of competitiveness for India. Automation, digitized textile production, and water-friendly sustainable production methods may contribute to increased performance and a more elevated placement of Indian textile in the export industry. The findings highlight for Bangladesh the imperative to break the over-reliance on readymade garment by venturing into technical textile, high value-added apparel solutions and sustainable textile production. Product diversification can help to mitigate this risk and shield against market shocks or changes in demands of global consumers.

The findings also underscore the importance for the two countries to focus on creating supply chain resilience, improving worker productivity, upgrading quality standards and deeper integration into global value chains. In addition, compliance with environmental and social sustainability requirements is becoming increasingly vital for long-term competitiveness in international trade of textiles.

The results indicate that the exporters and textile enterprises should focus on diversifying their markets, innovating, branding and improving product quality to be able to compete globally. Investments in sustainable production methods, digital technology and international certifications may potentially strengthen market positions in developed economies.

8. Future Research Directions

While the present study enhances our understanding of textile and apparel export competitiveness between India and Bangladesh, there are a few limitations which need to be addressed in future research. In the future, researches can consider to apply econometric modelling and other advanced statistical techniques to evaluate the causal link between competitiveness measures and export performance in a more robust way. Moreover, longitudinal panel data scrutinizing changes in competitiveness over time can also provide new insights into the dynamic features of competitiveness. Additional research can extend the analysis to other major textile-exporting countries (such as, China, Vietnam, Pakistan, Turkey, etc), in order to draw more generalized comparative insights on the global textile trade. Subsequent research may also explore the influence of sustainability, green manufacturing, digital transformation, artificial intelligence (AI), and Industry 4.0 on future textile competitiveness. As environmental considerations and ethical sourcing contribute to a more significant role in the global markets, investigation of sustainable competitiveness is considered to provide considerable contribution for both academic and policy-level. In addition, future research might also analyze the effect of geopolitical tensions, free trade agreements, changes in tariff policies, and the reshaping of global supply chains in a post-pandemic world on textile export competitiveness in developing countries.

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